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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,706	04/18/2005	Christoph Batz-Sohn	268436US0X PCT	3736
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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER GODENSCHWAGER, PETER F	
			ART UNIT	PAPER NUMBER
			1796	
			NOTIFICATION DATE	DELIVERY MODE
			09/04/2008	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/531,706	<b>Applicant(s)</b> BATZ-SOHN ET AL.	
	<b>Examiner</b> PETER F. GODENSCHWAGER	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 May 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 19-35 is/are pending in the application.
- 4a) Of the above claim(s) 21-35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11, 19 and 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/15/2005, 4/18/2005</u> .                                   | 6) <input type="checkbox"/> Other: _____                          |

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## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election with traverse of Group I, claims 1-11m 19, and 20 in the reply filed on May 27, 2008 is acknowledged. The traversal is on the ground(s) that there is no serious burden placed on the Examiner for search of the remaining claims. This is not found persuasive because as set forth in the restriction requirement, the technical feature that relates the groups is not a special technical feature, as it is shown in the reference cited in the restriction requirement.

The requirement is still deemed proper and is therefore made FINAL.

Claims 21-35 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected inventions, there being no allowable generic or linking claim.

Applicant timely traversed the restriction (election) requirement in the reply filed on May 27, 2008.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

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claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-7, 10, 11, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Darsillo et al. (US Pat. No. 6,284,819) in view of Shibasaki et al. (Intl. Pub. No. WO 01/98211, English equivalent US Pub. No. 2003/0152506 used for citation) and Lewis et al. (US Pub. No. 2003/0091647).

Regarding Claims 1, 4, 5 and 10: Darsillo et al. teaches an aqueous solution of two types of particles/powders (aqueous dispersion) (2:1-2). Darsillo et al. teaches the first group of particles (powder B) is a metal oxide that is an aggregate of primary particles (2:3-5), where the primary particles have a diameter of 1-50 nm (5:11-12,19-22), and a surface area of 200 m<sup>2</sup>/g (Example 1). Darsillo et al. teaches the second group of particles (powder A) of pyrogenic silica (amorphous silicon dioxide) (8:60-64) with a particle size that is less than the average diameter of the aggregates of the first group of particles (powder B) (i.e. 0-100% of the diameter of the aggregates of the first group, overlapping the claimed ranged 60%-166%) (7:41-45) and a particle diameter of 1-300 nm, overlapping the claimed range of 0.05 to 0.7 microns, or 50-700 nm (7:26-28). Darsillo et al. further teaches that the particles of the first and second group can be charged and cationic, and the ratio of group one to group two (powder B to A) is 0.1:1 to about 10:1, (at least 5% A to B) (4:1-7, 66-67 and 8:51-53).

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Darsillo et al. does not teach that the second group of powders (powder A) has a surface area of 5-50 m<sup>2</sup>/g or 5- 30 m<sup>2</sup>/g and a dispersion coefficient Z of less than 40. However, Shibasaki et al. teaches an amorphous silica of 0.1-0.7 μm, with a surface area of 5-30 m<sup>2</sup>/g, and a dispersion coefficient of less than 40 ([0011]-[0014] of English equivalent). Darsillo et al. and Shibasaki et al. are analogous art because they are concerned with the same field of endeavor, namely amorphous silica additives for plastic sheets. At the time of the invention, a person of ordinary skill in the art would have found it obvious to use the silica of Shibasaki et al. in the composition of Darsillo et al. and would have been motivated to do so because Shibasaki et al. teaches that the silica is useful for anti-blocking properties of plastic films or sheets ([0002] and [0017]).

Darsillo et al. does not teach that both powders have the same surface charge sign thereby having a zeta potential that gives rise to an electrostatic repulsion between the particles greater than the van der Waals attraction between the particles. However, Lewis et al. teaches the use of charged nanoparticles to surround dispersed microparticles such as silica, giving the microparticles enough charge to counteract the van der Waals attractive forces ([0035]-[0037], Example 1). Darsillo et al. and Lewis et al. are analogous art because they are concerned with the same field of endeavor, namely dispersions of silica microparticles. At the time of the invention, a person of ordinary skill in the art would have found it obvious to use the same charge sign for silica microparticles as taught by Lewis et al. in the composition of Darsillo et al. and would have been motivated to do so because Lewis et al. teaches that dispersions are stabilized by the coulombic repulsion between the nanoparticle coated microparticles and do not aggregate or flocculate ([0032]-[0037]).

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Regarding Claim 2: Darsillo et al. further teaches that the solids content of the dispersion is at least 30% by weight, overlapping the claimed range of 20%-80% (11:67-12:1).

Regarding Claim 3: Darsillo et al. further teaches that the viscosity is less than 100 centipoise (100 mPas).

Regarding Claim 6: Darsillo et al. further teaches that the average aggregate size of the first group (powder B) is 70 or 100nm to 500 nm anticipating the claimed range of 50-500 nm (6:23-29).

Regarding Claim 7: Darsillo et al. further teaches that the first group (powder B) is pyrogenic silica (4:59-66).

Regarding Claims 11, 19, and 20: Darsillo et al. further teaches the composition comprising pH regulators such as sodium hydroxide or sulfuric acid and additives such as surfactants (surface active substances) (10:18-20, 44-45).

Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Darsillo et al. (US Pat. No. 6,284,819) in view of Shibasaki et al. (Intl. Pub. No. WO 01/98211, English equivalent US Pub. No. 2003/0152506 used for citation) and Lewis et al. (US Pub. No. 2003/0091647) as applied to claim 6 above, and further in view of Zhong et al. (US Pub. No. 2002/0037395).

Darsillo et al. in view of Shibasaki et al. and Lewis et al. render the composition of claim 6 obvious as set forth above.

Darsillo et al. does not teach the composition where the first group (powder B) is a mixed oxide such as a silicon-aluminium mixed oxide. However, Zhong et al. teaches the use of

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inorganic particles such as alumina silicate (a silicon-aluminium mixed oxide) for a coating for an ink absorbing layer ([0026] and [0029]). Darsillo et al. and Zhong et al. are analogous art because they are concerned with the same field of endeavor, namely ink absorbing coatings. At the time of the invention, a person of ordinary skill in the art would have found it obvious to use the alumina silicate of Zhong et al. in place of the silica of Darsillo et al. and would have been motivated to do so because they are art recognized equivalents for the same purpose as evidenced by Zhong et al. who teaches both silica and aluminum silicate as effective inorganic particles useful for the coating ([0029]).

### *Correspondence*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PETER F. GODENSCHWAGER whose telephone number is (571)270-3302. The examiner can normally be reached on Monday-Friday 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on (571) 272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Eashoo, Ph.D./  
Supervisory Patent Examiner, Art Unit 1796  
29-Aug-08

/P. F. G./  
Examiner, Art Unit 1796  
August 28, 2008